

HAPPINESS AND PARTICIPATORY TEACHING

[Optentia Newsletter](#), vol. 5, nr 3, pp. 14-16

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Average happiness differs considerably across nations. Much of this difference is in societal development, but average happiness differs also among developed nations. Much of that latter difference seems to be due to cultural factors and education is a main carrier of these. We spent a considerable part of our life in schools, which not only adds to our cognitive abilities, but also influences psychological development.

Though there is much similarity in *what* we learn in school, there is much difference in *how* we learn, and variations teaching practices could affect psychological outcomes, such as discipline and self-respect. Of particular relevance for understanding the difference in happiness, is to what extent school systems foster psychological autonomy. Together with Gael Brule I explored that matter, using data about teaching practices in developed nations.

Hypothesis: horizontal teaching → autonomy → happiness

We have built on work by Algan (2011) who distinguishes two types of teaching: *vertical* teaching and *horizontal* teaching. The former refers to lecturing and note-taking, while the latter is based on work in groups and cooperation among students. We assumed that horizontal teaching will foster psychological autonomy more than vertical teaching. This hypothesis is based on our earlier work in which we found low psychological autonomy in two countries where vertical teaching prevails; Japan and France (Brule and Veenhoven 2014). On the basis of earlier research we also assume that psychological autonomy fosters happiness, at least in modern multiple-choice-societies.

Data

Two studies have been done to assess teaching practices across nations.

The *Civic Education Study (CES)* is a survey of pupils and teachers in the eighth grade, in 25 countries¹ in 1999. Pupils are teenagers around 13-14 years old. The survey was run by the International Association for the Evaluation of Educational Achievement (IEA). Both pupils and staff completed questionnaires.

The questionnaire involved questions about teaching practices: « In your class, a) How often do students work in groups? b) How often do students work on projects? c) How often do students study textbooks? d) How often do students participate in role play, e) How often does the teacher lecture? , f) How often does the teacher include discussions? g) How often does the teacher asks questions? ». The answers were given the values 1 never, 2 sometimes, 3 often and 4 very often.

Following Algan's method, we focused on the two ends of the spectrum of teaching practices from the CES, 'Teacher lectures' on one side and 'Students work

¹ Australia, Bulgaria, Chile, Cyprus, Czech Republic, Denmark, England, Estonia, Finland, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Norway, Poland, Portugal, Romania, Russian Federation, Slovak Republic, Slovenia, Sweden, Switzerland and the United States

in groups' on the other. The former indicates vertical teaching practices, the latter horizontal teaching. These dimensions have also been referred to as respectively 'teacher centered' and 'student centered' education. A 'z-score' was calculated, ranging from 0 for the country with the most vertical teaching (France) to 1 for the country with the most horizontal teaching (Sweden).

The *Trends in International Mathematics and Science Study (TIMSS)* is a multi-country comparative test of student cognitive achievement in mathematics and science, conducted in 1995 by the IEA, the same international consortium that constructed the CES database. The TIMSS also contains information about grade 8 students and covers 37 countries².

The survey covers class subjects including: mathematics, science, biology, chemistry and the earth sciences. We focused on the teaching practices in mathematics, as this allowed us to make comparison between a maximum number of countries. Additionally, the focus on mathematics was expected to be a good case for comparing how pupils learn, because of the great similarity in what is being learned.

The questions on teaching practices used in our analysis were: "In school, how often do you do these things? Copy notes from the board during the lessons?, Work together in pairs and small groups in class?" The answers ranged from 1 all the time, 2 often, 3 sometimes, to 4 never. A z-score was calculated, ranging from 0, the country with the most vertical teaching (Romania) to 1, the country with the most horizontal teaching (Switzerland).

In order to have the highest number of countries we combined the ratings obtained in the two studies, the TIMSS and the CES. When both studies covered the same country, an average score was used.

Findings

The hypothesis was confirmed for adults, but not for high-school pupils.

Adults happier in nations where horizontal teaching prevails

In a first study on the general public in 37 developed nations we found that people feel happier in the nations where participatory teaching prevailed. See figure 1. The correlation between average happiness and dominance of horizontal teaching was +.60.

Analyzing horizontal and vertical teaching separately does not change the picture. Horizontal teaching is positively correlated with happiness while vertical teaching is negatively correlated. Separate analysis of the two datasets also did not change the picture.

Next to these bi-variate analyses, we checked for possible spuriousness in the correlation, controlling for variables that are likely to produce an inflated correlation, without wiping away true correlation. Since wealth might be such a factor and there are still differences in affluence in this set of rich nations, we controlled buying power per head, which reduced the correlation to +.43

² Australia, Austria, Belgium, Bulgaria, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Indonesia, Iran, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Netherlands, Norway, Portugal, Romania, Russia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom and the United States

High-school students not happier in nations where horizontal teaching prevails
 In a second study among high school pupils in 22 developed nations we found no correlation between average happiness and dominant teaching style in the nation. The correlation was +.02.

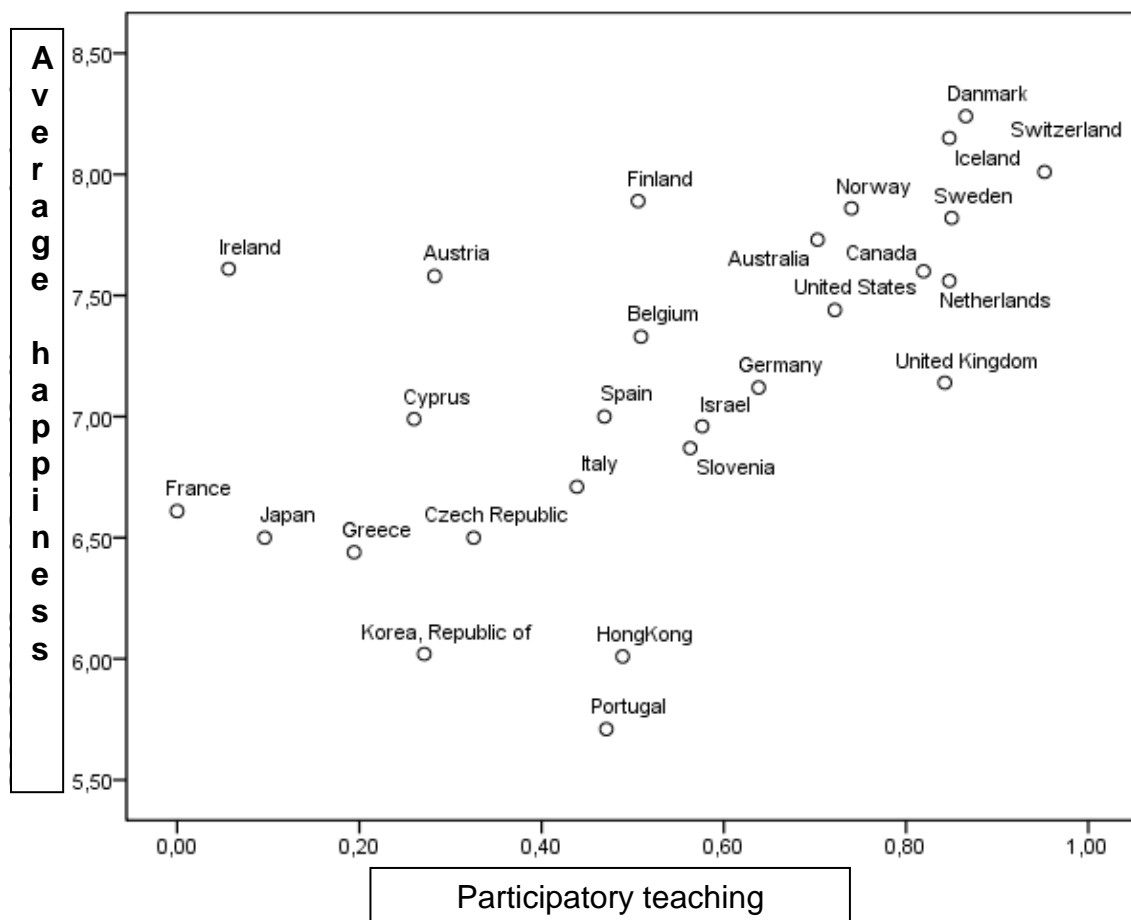
Interpretation

Why does the effect of teaching practice manifest among adults, but not among students who experience that every day? One explanation is that there is not much to choose in school age when one's choices are limited by adults, such as one's parents and teachers. So even if participatory teaching prepares them for psychological autonomy, it would make little difference in their present situation and hence have little effect on their happiness.

A related explanation is that the effects of participatory teaching on freedom manifest later in life, when personality has crystallized and when real choices have to be made, such as how to make for a living, whom to marry and to raise a family or not.

So it seems that the seeds of participatory teaching flourish only in adulthood in its long-term effects on an individual's psychological autonomy. Teenagers reap these fruits later in life.

Table 1
Average happiness and participatory teaching in 27 developed nations



Full text

Gaël Brulé and Ruut Veenhoven, *Participatory teaching and happiness in developed nations*, Journal Advances in Applied Sociology (in press). Preprint available at : <http://www2.eur.nl/fsw/research/veenhoven/Pub2010s/2014r-full.pdf>

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